IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of	)	
	)	For: APPARATUS AND METHOD FRO REDUCING POWER CONSUMPTION IN A MOBILE UNIT
OLIVEIRA, L.D.	)	
	)	
	)	
Serial No. 09/865,145	)	
	)	
Filed: 24 May 2001	)	Group No. 2617

AMENDED BRIEF ON APPEAL UNDER 37 C.F.R. § 41.37

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Further to the Notice of Appeal filed on November 14, 2008 and in response to the Notification of Non-Compliant Appeal Brief dated January 23, 2009, this Amended Appeal Brief is respectfully submitted.

This brief contains items under the following headings as required by C.F.R. § 41.37 and M.P.E.P. § 1206:

I. Party in Interest
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I. Real Party in Interest

The real party in interest for this Application is Qualcomm Inc., as evidenced

by an Assignment recorded on October 11, 2001 at Reel 012267, Frame 0058.

II. Related Appeals and Interferences

To the best of Appellant's knowledge, there are no other prior or pending appeals of this Application, or patent interference proceedings, or judicial proceedings which may be related to, directly affect, or be directly affected by, or have a bearing on the Board's decision of this Appeal.

III. Status of Claims

In the Application on appeal, claims 1-3, 5-6, 8-9, 12-15 and 18-33 are pending. Claims 4, 7, 10-11 and 16-17 are cancelled. Claims 1-3, 5-6, 8-9, 12-15 and 18-33 are finally rejected and are on appeal.

IV. Status of Amendments

The Amendment filed on May 12, 2008 has been entered. The last reply dated October 13, 2008 was entered, as stated in Item 11 of the Advisory Action dated November 5, 2008. There are no un-entered amendments to the claims.

V. Summary of the Claimed Subject Matter

Claim 1 is directed to a device adapted to communicate with an audio mux **(e.g., 222; FIG. 2)**, the audio mux receiving a vocoder input **(e.g., Specification: page 6, [0028])** from a vocoder **(e.g., 206; FIG. 2)** and an audio decoder input **(e.g., Specification: page 6, [0029])** from an audio decoder **(e.g., 220; FIG. 2)**. The device includes a stereo/mono control unit **(e.g., 210; FIG. 2)** coupled to a codec **(e.g., 201; FIG. 2)**. The device further includes a plug-in detection circuit **(e.g., 212; FIG. 2)** for determining a type of an audio output device **(e.g., 223, 224, 226; FIG. 2)** coupled to an I/O jack **(e.g., 228; FIG. 2)**, and outputting the determined type of the audio output device to the stereo/mono control unit **(e.g., Specification: pages 6-7, [0032]; 292; FIG. 2)**. The determined type of audio output device is one of a stereo capable device and a mono capable device **(e.g., Specification: page 9, [0042])**. The stereo/mono control unit receives an audio mux input **(e.g., 298; FIG. 2)** identifying a type of a signal **(e.g., Specification: page 9, [0042])** that the codec received from the audio mux, and the stereo/mono control unit provides a control output **(e.g., 296; FIG. 2)** to the codec based on the determined type of the audio output device and the identified type of the signal **(e.g., 201, 210, 212, 222; FIG. 2; Specification pages 9-10, [0042] through [0046])**.

Claim 12 is directed to a method for processing received audio signals in a device **(e.g., 200; FIG. 2)**. The method includes determining a type of an audio output device **(e.g., 223, 224, 226; FIG. 2)** coupled to an I/O jack **(e.g., 228; FIG. 2)** **(e.g., Step 406; Fig. 4; Specification: page 11, [0050])**. The method further includes determining a type of the received audio signals **(e.g., Specification: page 9, [0042])**, where the type identifies whether a signal **(e.g., 355; FIG. 3)** provided to an audio codec **(e.g., 201; FIG. 2)** by an audio multiplexer **(e.g., 255; FIG. 2)** is one of voice, stereo music, and mono music **(e.g., Steps 408, 412, 413; FIG. 2; Specification: pages 11-12, [0051] through [0054])**. The method further includes providing a control output **(e.g., 296; FIG. 2)** to disable or enable a first channel **(e.g., 366, 36, 372, 388, 382; FIG. 3)** in a receive audio processing path **(e.g., 318;**

FIG. 3) based on the type of the audio output device and the type of the received audio signals **(e.g., Steps 410, 414, 416; FIG. 4; Specification: page 11, [0052]; page 12, [0055] and [0056]; and page 9, [0042])**.

Claim 22 is directed to an apparatus for selectively reducing power consumption in an audio codec **(e.g., 301; FIG. 3)** that includes a plurality of components **(e.g., 338-352, 362-372, 378, 380-381; FIG. 3)**. The apparatus includes a stereo/mono control unit **(e.g., 210; FIG2; 310; FIG. 3)** having a first input **(e.g., 298; FIG. 2)** for receiving an audio multiplexer **(e.g., 222; FIG. 2; 378; FIG. 3)** input that identifies whether a signal provided to the audio codec by the audio multiplexer is one of voice, stereo music, and mono music **(e.g., Specification: page 8, [0040]))**. The apparatus further includes a second input for receiving a plug-in detection input **(e.g., 392; FIG. 3)** that identifies whether an audio output device **(e.g., 323, 324, 326; FIG. 3)** coupled an I/O jack **(e.g., 328; FIG. 3)** is stereo capable or mono capable. The apparatus further includes an output for providing a control output **(e.g., 396; FIG.3)**, where the stereo/mono control unit generates the control output based on the audio multiplexer input and the plug-in detection input, and wherein the control output is provided to the audio codec and selectively reduces the power consumption in the audio codec **(e.g., Specification: page 8, [0040]; page 10; [0048]; page 12, [0056])**.

Claim 25 is directed to an apparatus for selectively reducing power consumption in an audio codec that includes a plurality of components **(e.g., 338-352, 362-372, 378, 380-381; FIG. 3)**. The apparatus includes means **(e.g., 312; FIG. 3; Specification: page 8, [0039])** for determining a type of an audio output device **(e.g., 223, 224, 226; FIG. 2)** coupled to an I/O jack **(e.g., 328; FIG. 3)**. The apparatus further includes means **(e.g., 222; FIG. 2; Specification: page 6, [0032])** for determining a type of the received audio signals **(e.g., page 9, [0042])**, where the type identifies whether a signal provided **(e.g., 298)** to the audio codec by the audio multiplexer is one of voice, stereo music, and mono music. The apparatus further

includes means **(e.g., 210; FIG. 2; 310; FIG. 3; Specification: page 8, [0040])** for providing a control output **(e.g., FIG. 3; 398)** to disable or enable a first channel **(e.g., 366, 36, 372, 388, 382; FIG. 3)** in a receive audio processing path **(e.g., 318; FIG. 3; Specification: page 10, [0045], [0048])** based on the type of the audio output device and the type of the received audio signals **(e.g., Steps 410, 414, 416; FIG. 4; Specification: page 11, [0052]; page 12, [0055] and [0056]; and page 9, [0042])**.

Claim 29 is directed to a computer readable media embodying logic for processing received audio signals in a device **(e.g., 201; FIG. 2; 301; FIG.3)**. The logic configured to perform a method **(e.g., 400; FIG. 4)** including determining a type of an audio output device **(e.g., 223, 224, 226; FIG. 2)** coupled to an I/O jack **(e.g., e.g., 228; FIG. 2) (e.g., Step 406; Fig. 4; Specification: page 11, [0050])**. The logic further performing determining a type **(e.g., Specification: page 9, [0042])** of the received audio signals. The type identifies whether a signal **(e.g., 355; FIG. 3)** provided to the audio codec by the audio multiplexer is one of voice, stereo music, and mono music **(e.g., Steps 408, 412, 413; FIG. 2; Specification: pages 11-12, [0051] through [0054])**. The logic further performing providing a control output **(e.g., 296; FIG. 2)** to disable or enable a first channel **(e.g.,)** in a receive audio processing path **(e.g., 366, 36, 372, 388, 382; FIG. 3)** based on the type of the audio output device and the type of the received audio signals **(e.g., Steps 410, 414, 416; FIG. 4; Specification: page 11, [0052]; page 12, [0055] and [0056]; and page 9, [0042])**.

VI. Grounds of Rejection to be Reviewed on Appeal

In the Final Office Action dated August 13, 2008, the Examiner finally rejected: claims 29-33 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement; and claims 1-3, 5, 6, 8, 12-15 and 18-33

under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,594,366 to Adams (hereinafter "Adams"). Each of the items raised is addressed below.

VII. Argument

A. Claims 29-33 comply with the written description requirement set forth in 35 U.S.C. §112, first paragraph. The feature "computer readable media" recited in claims 29-33 is described in the specification in such a way to reasonably convey to one of ordinary skill in the art that the inventor had possession of the claimed subject matter at the time the application was filed.

In the Final Office Action dated August 13, 2008, the Examiner summarily asserted that "there is no disclosure of a computer readable media embodying logic for processing received audio signals in a device." (See Final Office Action: page 2, para. no. 2). In response to the arguments presented in the After Final Reply dated October 13, 2008, the Examiner asserted:

> Further, the Examiner is maintaining the 112 rejection as there is not sufficient support in the Specification for a computer readable media. The Specification must empirically define the bounds of what the medium can be and must not include language such as "signals, carrier waves, or transmission media".
>
> (See Advisory Action of November 5, 2008, page 2.)

Appellant respectfully point out that the Examiner's assertion that the specification "must empirically define the bounds of what the medium can be" is not the correct standard for determining compliance with the written description requirement under 35 U.S.C. §112, first paragraph.

By requiring the disclosure to "empirically define the bounds of what the medium can be," it appears that the Examiner is implying the disclosure must contain

literal support for the subject matter at issue. Appellant respectfully disagrees, and points out the provisions set forth in MPEP §2163.02, which states:

> The subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement.
>
> (See §2163.02; MPEP 8th Ed., Rev. 6, Sept. 2007.)

Reiterating case law on the subject, the MPEP summarizes the standard for satisfying the written description requirement:

> An objective standard for determining compliance with the written description requirement is, "does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed." *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989). Under *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991), to satisfy the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and that the invention, in that context, is whatever is now claimed.
>
> (See §2163.02; MPEP 8th Ed., Rev. 6, Sept. 2007; emphasis added.)

Turning to the specification, in paragraph [0048], for example, the instant application discloses various embodiments of stereo/mono control unit 310, which "might not provide a simple disable signal as in the case for the digital-to-analog converter, but rather the control output 396 could be a command to the digital signal processor to enable or disable the firmware portion of the receive gain 366 and receive filter 368" (emphasis added). Moreover, stereo/mono control unit 310 may, for example, "receive digital audio signals from audio mux 222" (para. no. [0049]; emphasis added).

While the specification does not literally disclose "computer readable media," Appellant submits that such literal support is not required to adequately support claims 29-33.

Appellant submits that a specification disclosing a controller (e.g., 210; FIG. 2), which can accept digital inputs, execute logical instructions as shown in Fig. 4 (see e.g., specification: [0049]), and can provide digital commands to a digital signal processor to enable or disable firmware, would convey with reasonable clarity to one of ordinary skill in the art, that embodiments of the invention can utilize a computer readable media, such that Appellant was in possession of the subject matter recited in claims 29-33.

Moreover, the fact that the specification discloses an embodiment utilizing firmware is sufficient under §112, first paragraph, as one of ordinary skill would appreciate that firmware includes code stored in memory (e.g., ROM, ROM, PROM, EPROM, EEPROM, etc.), which is a "computer readable media."

Regarding the aforementioned quote from the Advisory Action, wherein the Examiner asserted that the media "must not include language such as 'signals, carrier waves, or transmission media,'" Appellant respectfully submits that such language is not a relevant concern in determining whether a claims satisfies the written description requirement.

In view of the foregoing remarks, Appellant respectfully submits that claims 29-32 are in conformance with 35 U.S.C. §112, first paragraph. The recited feature "computer readable media" is supported by the specification in such a way to

reasonably convey to one of ordinary skill in the art that the inventor had possession of the claimed subject matter at the time the application was filed.

B. Adams fails to anticipate claims 1-3, 5, 6, 8, 12-15 and 18-33 under 35 U.S.C. §102(e).

1. The Adams reference neither explicitly nor inherently discloses:

"an audio mux input identifying a type of a signal that the codec received from the audio mux" as recited in claim 1;

"determining a type of received audio signals; wherein the type identifies whether a signal provided to the audio codec by the audio multiplexer is one of voice, stereo music, and mono music," as recited in claims 12, 25 and 29; and

"a stereo/mono control unit having a first input for receiving an audio multiplexer input that identifies whether a signal provided to the audio codec by the audio multiplexer is one of voice, stereo music, and mono music," as recited in claim 22.

Appellant respectively submits Adams fails to disclose all of the features recited in claims 1, 12, 22, 25 and 29, and provides a brief summary of the Adams reference as follows.

Adams discloses an electronic device (50) which utilizes a single jack (120) that is functionally suitable for plugs (106, 108) associated with telephone headsets (103) and stereo headphones (101). (See col. 1, lines 43-45) The electronic device (50) employs a two-channel sensing circuit (210) which detects whether the headphone (101) or headset (103) is installed. By employing an impedance sensing circuit (210a), it is possible to use a single common 2.5 mm jack for both stereo radio and telephony operation. Formerly, two separate jacks would typically be required for supporting both functions. (See col. 1, lines 45-50.) A sensing circuit (210a) is provided which includes one or more comparators (224) for detecting whether a headphone or headset is installed. The comparator compares impedance levels to a

predetermined reference (218, 220) taking advantage of the two different impedances of the headphones and headset. If a headpiece (101, 103) is installed, a low impedance is detected. When a headpiece (101, 103) is not installed, a high impedance is detected. The sensing circuit (210a) is provided for two channels (e.g., left and right stereo (116, 118), or microphone (110) and audio output (112 and 114)). If both channels are at low impedance, then the stereo headphones are installed. When only one channel is at low impedance, then the other channel is a microphone (110) input and a telephone headset (103) is installed. If neither channel is at low impedance, then nothing is installed. (See col. 1, lines 50-67.)

In the Advisory Action dated November 5, 2008, the Examiner asserts:

> Adams also teaches a first input for receiving an audio multiplexer input that identifies whether a signal provided to the audio codec by the audio multiplexer is one of voice, stereo music, and mono music. The type of signal is determined by the sensing circuit. If a headphone is detected, the type of signal is identified as stereo music. If a headset is detected, voice or mono music is identified. Hence, as broadly interpreted, the limitations are read in the reference.
>
> (See Advisory Action of November 5, 2008: page 2, lines 1-5.)

Appellant respectfully submits that the Examiner is improperly interpreting the Adams reference.

Appellant submits that Adams merely teaches that sensor unit 210 is configured to "detect the presence of a plug for a cellular phone 106 or a plug for a stereo headset 108" (col. 3, lines 62-64). Furthermore, Adams teaches that "the sensing is done on both channels; if both channels are at low impedance, then a stereo headphone is installed. If only one channel is at low impedance, then the other channel is the microphone input and a telephone headset is installed. If

neither channel is at low impedance, then the system assumes that nothing is installed" (col. 4, lines 20-26).

Because the headphones/headset are passive devices, the sensing unit 210 will not detect, as the Examiner seems to be asserting, signals corresponding to voice, stereo music, and mono music being generated at the jack 106/108. To determine the transducer's impedance, the sensor must supply a DC test signal generated by a 3 Volt source. A comparator 224 is used to compare the test signal with a reference, and the voltage level produced by the comparator will be proportional to the DC impedance of the transducer. (See col. 4, lines 26-45; Fig. 4.)

Accordingly, the sensing circuit 210a as disclosed by Adams merely senses the impedance of a set of headphones. The sensing circuit cannot identify a signal type provided to an audio codec as asserted by the Examiner. The sensing circuit merely provides a DC voltage at node N, which is then used to determine the impedance of the headphones using a comparator 224 (col. 4, lines 26-45; Fig. 4). Appellant submits that Adams sensor cannot determine a signal which identifies one of voice, stereo music, and mono music, because the DC voltage used by the sensor cannot convey time-varying signal information, and thus cannot discriminate between voice, stereo music, and mono music.

As stated in MPEP § 2131, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California, 2* USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as

complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.,* 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Clearly from the foregoing, the Adams reference fails to explicitly or inherently disclose the above-quoted features recited in claims 1, 12, 22, 25 and 29, as is required under 35 U.S.C. § 102.

Accordingly, Appellant respectfully submits that the applied Adams reference does not anticipate independent claims 1, 12, 22, 25 and 29 as alleged by the Examiner.

> *2. The Adams reference neither explicitly nor inherently discloses "providing a control output to disable or enable a first channel in a receive audio processing path based on the type of the audio output device and the type of the received audio signals," as recited in claim 12, 25 and 29.*

In the Advisory Action dated November 5, 2008, the Examiner asserts:

> Applicant argues that Adams does not teach disabling components, but rather disconnecting them. The Examiner maintains that Adams teaches the claimed invention as Adams teaches enabling or disabling channels (thus conserving power) based on whether the received audio signal is a stereo signal or phone call. If a component is disconnected, it is, in essence, disabled. Hence, as broadly interpreted, the limitations are read in the reference.
>
> (See Advisory Action of November 5, 2008: page 2, lines 7-10.)

Appellant respectfully submits that the Examiner is improperly interpreting the Adams reference.

Appellant submits that Adams does not <u>disable</u> or deactivate the AM/FM Radio 202 or the cellular telephone unit 200. Adams merely discloses <u>disconnecting</u> the output signals of these units from reaching the output plug, depending upon the type of plug sensed, and the mode of the electronic device 50. In other words, the

functionality of the AM/FM Radio is not disabled, as it is still producing a usable signal. This usable signal is prevented from reaching the headphones/headset by the switch.

Specifically, Appellants submit that Adams merely discloses disconnecting the outputs of radio unit 202 (col. 3, lines 45-61). While this may conserve some power, as the headphones are not being driven by the radio unit's output stage, the radio is still operating and consuming power, and is thus not disabled. Merely disconnecting the output the radio unit will not affect other sections therein, such as, for example, the radio unit's RF front end. Accordingly, the radio is not disabled, as it is operating and providing a signal which is available for use.

The specification of Adams teaches the following regarding the mechanism for disconnecting the radio unit:

> The switch 204 has a contact A coupled to the right stereo or mono input (sic)[1] of the AM/FM radio unit 202, and a second contact B coupled to the receiver output of the cellular telephone unit 200. The switch 206 includes a contact C coupled to the left stereo output of the AM/FM radio unit 202 and a second contact D coupled to the microphone input of the telephone unit 200.
>
> (See col. 3, lines 55-61.)

Appellant submits that disconnecting the output signals from reaching the headphone jack is not the same as "disabling" the AM/FM radio unit 202. The only component being "disabled" in Adams teaching is a passive transducer which is part of the headpiece (101, 103)

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[1] Appellants submit that the word "input" is used in error here, and should accordingly read as "output". If a right channel "input' of the AM/FM radio unit were connected to the headphone jack, it would not produce any sound through the headphone transducer(s).

In summary, Appellant submits that the states of switches 204, 206 disclosed in Adams cannot be used to infer the state of activation or deactivation of the AM/FM Radio unit 202 or the cellular telephone unit 200.

Therefore, Appellants maintain that Adams fails to disclose, at least, "providing a control output to disable or enable a first channel in a receive audio processing path based on the type of the audio output device and the type of received audio signals," as recited in claims 12, 25 and 29. Accordingly, Appellant respectfully submits that the applied Adams reference does not anticipate independent claims 12, 25 and 29 as alleged by the Examiner.

> 3. *The Adams reference neither explicitly nor inherently discloses:*
> *"the stereo/mono control unit provides a control output to the codec based on the determined type of the audio output device and the identified type of the signal," as recited in claim 1 ;and*
> *"the stereo/mono control unit generates the control output based on the audio multiplexer input and the plug-in detection input; wherein the control output is provided to the audio codec and selectively reduces the power consumption in the audio codec," as recited in claim 22.*

Appellants submit that col. 1 lines 43 to 65 of Adams is directed to explaining a two channel sensing circuit of Adams that is utilized to detect whether a headphone or headset is installed (see lines 45 to 53). Adams uses the following algorithm to determine which component is installed. When both channels are low impedance, the sensing circuit determines that a stereo headphone is installed. When both channels are high impedance, then the sensing circuit determines that nothing is installed. When one channel is low impedance and other channel is high impedance, then a telephone headset is installed (see col. 1, lines 60-64).

In the Adams reference, sensor 210 is configured to detect the presence of two different types of plugs (a first type of plug for a cell phone 106 and a second type of

plug for a stereo headset 108) *(col. 3, lines 62-64)*. For example, sensor 210 includes "circuits to detect the presence of one or more types of 2.5 mm plugs." The Adams system uses a switching unit 203 "to switch between AM/FM radio 202, the cell phone 200 output and input functionality." The Adams system also uses a microphone switch 262 "to switch the microphone 128 on or off." (See col. 3, lines 41-45 and col. 3, line 62 to col. 4, line 45).

However, it is respectfully submitted that Adams does not appear to teach or disclose providing a control output based on "the identified type of the signal" as recited in claim 1, or "based on the audio multiplexer input," where the "audio multiplexer input identifies whether a signal provided to the audio codec by the audio multiplexer is one of voice, stereo music, and mono music," as recited in claim 22.

Therefore, Appellant respectfully submits that the applied Adams reference does not anticipate independent claims 1 and 22 as alleged by the Examiner.

Appellant also respectfully submits that dependent claims 2-3, 5-6 and 8-9, which depend from claim 1; dependent claims 13-15, 18-19 and 20-21, which depend from claim 12; dependent claims 23-24, which depend from claim 22; dependent claims 26-38, which depend from claim 25; and dependent claims 30-33, which depend from claim 29, are patentable for at least the same reasons as the provided above in the arguments for the allowability of independent claims 1, 12, 22, 25 and 29.

VIII. CLAIMS

A copy of the claims involved in the present appeal is attached hereto as Appendix A. As indicated above, the claims in Appendix A include the amendments made in the After-Final Reply filed by Appellant on May 12, 2008.

IX. EVIDENCE

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the Examiner is being submitted.

X. RELATED PROCEEDINGS

No related proceedings are referenced in Section II, above.

CONCLUSION

Appellants respectfully submit that claims 1-3, 5-6, 8-9, 12-15 and 18-33 are patentable over the applied art and that all of the rejections and objections of record should be reversed.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 50-3828 for any additional fees required under 37 C.F.R. § 1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,

Dated: 2/23/09

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APPENDIX A: CLAIMS

1. (Previously Presented) A device adapted to communicate with an audio mux, the audio mux receiving a vocoder input from a vocoder and an audio decoder input from an audio decoder, the device comprising:

a stereo/mono control unit coupled to a codec; and

a plug-in detection circuit for determining a type of an audio output device coupled to an I/O jack and outputting the determined type of the audio output device to the stereo/mono control unit; wherein the determined type of audio output device is one of a stereo capable device and a mono capable device; wherein the stereo/mono control unit receives an audio mux input identifying a type of a signal that the codec received from the audio mux, and the stereo/mono control unit provides a control output to the codec based on the determined type of the audio output device and the identified type of the signal.

2. (Original) The device of claim 1 wherein the control output is coupled to a plurality of components in a receive audio processing path of the codec.

3. (Previously Presented) The device of claim 2 wherein the plurality of components are in one of a right channel of the receive audio processing path and a left channel of the receive audio processing path.

4. (Cancelled)

5. (Original) The device of claim 2 wherein the control output disables at least one of the plurality of components to reduce power consumption in the receive audio processing path of the codec.

6. (Original) The device of claim 2 wherein the plurality of components

comprise a receive gain, a receive filter, a digital-to-analog converter, a left/right selector, and a headset amp.

7. (Cancelled)

8. (Previously Presented) The device of claim 1 wherein the control output disables at least one of a plurality of components in a receive audio processing path of the codec when the identified type of the signal is a voice signal.

9. (Original) The device of claim 8 wherein the plurality of components comprise a receive gain, a receive filter, a digital-to-analog converter, a left/right selector, and a headset amp.

10. (Cancelled)

11. (Cancelled)

12. (Previously Presented) A method for processing received audio signals in a device, the method comprising:

determining a type of an audio output device coupled to an I/O jack;

determining a type of the received audio signals; wherein the type identifies whether a signal provided to an audio codec by an audio multiplexer is one of voice, stereo music, and mono music; and

providing a control output to disable or enable a first channel in a receive audio processing path based on the type of the audio output device and the type of the received audio signals.

13. (Previously Presented) The method of claim 12, further comprising:

disabling the first channel in the receive audio processing path and enabling a second channel in the receive audio processing path when the type of the received audio signals is mono signals; and

enabling the first channel in the receive audio processing path and enabling the second channel in the receive audio processing path when the type of the received audio signals is stereo signals,

wherein the disabling of the first channel is performed by a stereo/mono control unit.

14. (Previously Presented) The method of claim 13 wherein the disabling of the first channel is performed by the control output of the stereo/mono control unit disabling at least one of a plurality of components in the first channel;

wherein one of

the first channel is a right channel in the receive audio processing path and the second channel is a left channel in the receive audio processing path and;

the first channel is a left channel in the receive audio processing path and the second channel is a right channel in the receive audio processing path.

15. (Original) The method of claim 14 wherein the plurality of components comprise a receive gain, a receive filter, a digital-to-analog converter, a left/right selector, and a headset amp.

16. (Cancelled)

17. (Cancelled)

18. (Previously Amended) The method of claim 13 wherein the device

comprises a vocoder and an audio decoder, wherein the vocoder provides voice signals to an audio mux, and wherein the audio decoder provides music signals to the audio mux.

19. (Original) The method of claim 18 wherein the stereo/mono control unit receives the audio signals from the audio mux.

20. (Previously Presented) The method of claim 12 wherein the type of the audio output device is a stereo output component.

21. (Original) The method of claim 20 further comprising disabling the first channel when the stereo output component is not coupled to the device.

22. (Previously Presented) An apparatus for selectively reducing power consumption in an audio codec that includes a plurality of components, the apparatus comprising:

a stereo/mono control unit having a first input for receiving an audio multiplexer input that identifies whether a signal provided to the audio codec by the audio multiplexer is one of voice, stereo music, and mono music;

a second input for receiving a plug-in detection input that identifies whether an audio output device coupled an I/O jack is stereo capable or mono capable; and

an output for providing a control output; wherein the stereo/mono control unit generates the control output based on the audio multiplexer input and the plug-in detection input; wherein the control output is provided to the audio codec and selectively reduces the power consumption in the audio codec.

23. (Previously Presented) The apparatus of claim 22 further comprising:

an audio multiplexer, coupled to the stereo/mono control unit, for providing the audio multiplexer input to the stereo/mono control unit.

24. (Previously Presented) The apparatus of claim 22 further comprising:

a plug-in detection circuit, coupled to the stereo/mono control unit, for providing the plug-in detection input to the stereo/mono control unit.

25. (Previously Presented) An apparatus for selectively reducing power consumption in an audio codec that includes a plurality of components, the apparatus comprising:

means for determining a type of an audio output device coupled to an I/O jack;

means for determining a type of the received audio signals; wherein the type identifies whether a signal provided to the audio codec by the audio multiplexer is one of voice, stereo music, and mono music; and

means for providing a control output to disable or enable a first channel in a receive audio processing path based on the type of the audio output device and the type of the received audio signals.

26. (Previously Presented) The apparatus of claim 25, further comprising:

means for disabling the first channel in the receive audio processing path and enabling a second channel in the receive audio processing path when the type of the received audio signals is mono signals; and

means for enabling the first channel in the receive audio processing path and enabling the second channel in the receive audio processing path when the type of the received audio signals is stereo signals,

wherein the disabling of the first channel is performed by a stereo/mono control unit.

27. (Previously Presented) The apparatus of claim 26 wherein the disabling of the first channel is performed by the control output of the stereo/mono control unit disabling at least one of a plurality of components in the first channel;

wherein one of

the first channel is a right channel in the receive audio processing path and the second channel is a left channel in the receive audio processing path, and

the first channel is a left channel in the receive audio processing path and the second channel is a right channel in the receive audio processing path.

28. (Previously Presented) The apparatus of claim 25 further comprising:

means for disabling the first channel when a stereo output component is not coupled to the device.

29. (Previously Presented) A computer readable media embodying logic for processing received audio signals in a device, the logic configured to perform a method comprising:

determining a type of an audio output device coupled to an I/O jack;

determining a type of the received audio signals; wherein the type identifies whether a signal provided to the audio codec by the audio multiplexer is one of voice, stereo music, and mono music; and

providing a control output to disable or enable a first channel in a receive audio processing path based on the type of the audio output device and the type of the received audio signals.

30. (Previously Presented) The computer readable media of claim 29, further comprising:

disabling the first channel in the receive audio processing path and enabling a second channel in the receive audio processing path when the type of the received audio signals is mono signals; and

enabling the first channel in the receive audio processing path and enabling the second channel in the receive audio processing path when the type of the received audio signals is stereo signals,

wherein the disabling of the first channel is performed by a stereo/mono control unit.

31. (Previously Presented) The computer readable media of claim 30 wherein the disabling of the first channel is performed by the control output of the stereo/mono control unit disabling at least one of a plurality of components in the first channel;

wherein one of

the first channel is a right channel in the receive audio processing path and the second channel is a left channel in the receive audio processing path and

the first channel is a left channel in the receive audio processing path and the second channel is a right channel in the receive audio processing path.

32. (Previously Presented) The computer readable media of claim 31 wherein the plurality of components comprise a receive gain, a receive filter, a digital-to-analog converter, a left/right selector, and a headset amp.

33. (Previously Presented) The computer readable media of claim 29

further comprising disabling the first channel when a stereo output component is not coupled to the device.

APPENDIX B: EVIDENCE

(None)

APPENDIX C: RELATED PROCEEDINGS

(None)